

MANUFACTURERS & EXPORTERS OF MICA & MINERALS
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PHYSICAL PROPERTIES

<u>CHARACTERISTIC</u>	<u>UNIT</u>	<u>MUSCOVITE</u>	<u>PHLOGOPITE</u>
Colour		Ruby / Green	Amber / Yellow
Density	gm/cm ³	2.6 - 3.2	2.6 - 3.2
	lb/in ³	0.095-0.116	0.095-0.116
Specific Heat		0.21	0.21
Hardness	Moh Scale	2.8 - 3.2	2.3 - 3.0
	Shore Test	80 - 105	70 - 100
Optic Axial Angle		55 - 75	5 - 25
Tensile Strength	kgf/cm ²	about 1750	about 1000
	lbf/in ²	about 25000	about 15000
Shear Strength	kgf/cm ²	2200 - 2700	1000 - 1300
	lbf/in ²	31000 - 38000	14000 - 19000
Compression Strength	kgf/cm ²	1900 - 2850	---
	lbf/in ²	27000 - 32000	---
Modulus of Elasticity	kgf/cm ² x 10 ⁻³	1400 - 2100	1400 - 2100
	lbf/in ² X 10 ⁻⁶	20 - 30	20 -30

Coefficient of expansion per °C perpendicular to cleavage plane		9 X 10 ⁻⁶ - 36 X 10 ⁻⁶	30 X 10 ⁻⁶ - 60 X 10 ⁻⁶
Calcining Temperature	C	700 - 800	900 - 1000
	F	1290 - 1470	1650 -1830
Maximum operating temperature	C	500 - 600	800 - 900
	F	930 - 1110	1470 -1650
Thermal conductivity			
Perpendicular to cleavage planes	Gm.cal/sec/cm ² /C/cm	about 0.0013	about 0.0001
	BTU/hr/ft ² /0f/ft	about 0.31	about 0.24
Parallel to cleavage planes	Gm.cal/sec/cm ² /C/cm		about 0.012
	BTU/hr/ft ² /0f/ft		about 3.0
Water of constitution %		4.5	3.0
Moisture absorption		Very low	Very low
Apparent electric strength	0.001" to 0.003" KV/mm	120 - 200	---
	thick Volts per 0.001"	3000 - 5000	---
R.M.S. at 15° C (60°F)	0.01" to 0.05" KV/mm	40 - 80	30 -60
	thick Volts per 0.001"	1000 - 2000	750 -1500
Permittivity at 15°C(60oF)		6 - 7	5 - 6

Power Factor (loss tangent)	@ 15° C (60° F)	0.0001 - 0.0004	0.001 - 0.005
Volume Resistivity	25° C (77° F) ohm cm	40 x 10 ¹³ -2 x 10 ¹⁷	1 x 10 ¹² - 1 x 10 ¹²
Acid reaction		Affected by Hydrofluoric Acid	Affected by Sulphuric Acid